

Analog Sensors

BOD 26K Laser Distance Sensor

Technical Description

The BOD-26K utilizes the accuracy of laser light to produce an analog distance measurement sensor with resolution down to 20µm. The pin-point size laser spot makes this versatile sensor ideal for non-contact dimensional measurement of small parts, tool checks, surface profiling in any application that requires precise absolute position measurement.

The BOD-26K uses the laser light beam in a triangulation arrangement to determine the distance from the sensor to the target. Triangulation uses a fixed beam of laser light to reflect off a target (see figure1). The reflected light is received through a lens that acts as a pivot point for the received light. This produces a scaled down version of the target range. A position sensitive receiver interrupts

the position into a voltage. Target distance corresponds to the sensor's analog output voltage (0-10 Vdc). The target range is 45-85mm.

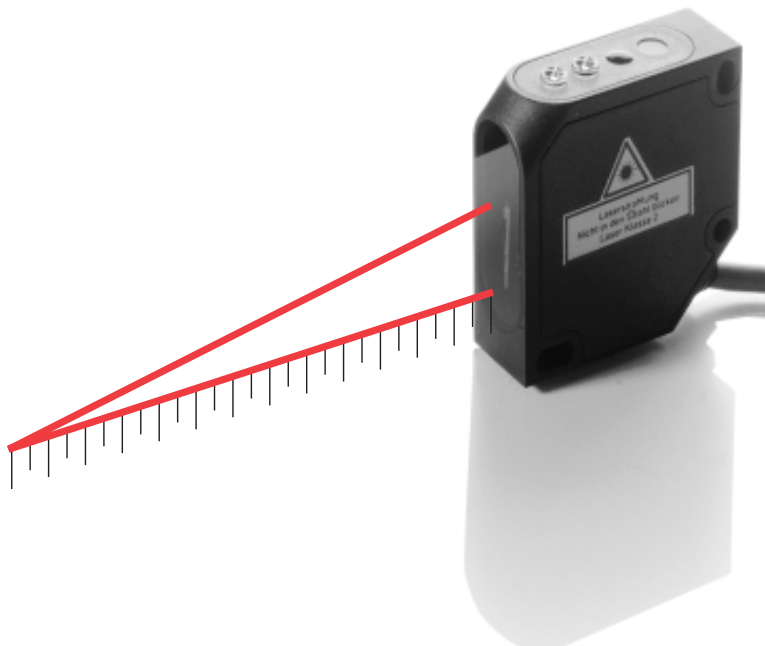
Enclosed in the same innovative block housing as the BOS-26K family, the BOD-26K has an optional mounting bracket which makes installation and alignment simple. A highly visible LED on the sensor emits a green light when operating under stable conditions and turns red when the target goes out of range. The impact-resistance ABS housing is sealed to IP67 standards and is CE-rated. The sensor incorporates reverse-polarity and short-circuit protection. Laser Class II rating means no additional safety measures are required. 18-28 Vdc powers the sensor.

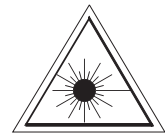
Applications

- Dimensional checking (length width height)
- Flexible positioning
- Contour sensing
- Level detection
- Tool condition checking
- Surface checking
- Object detection

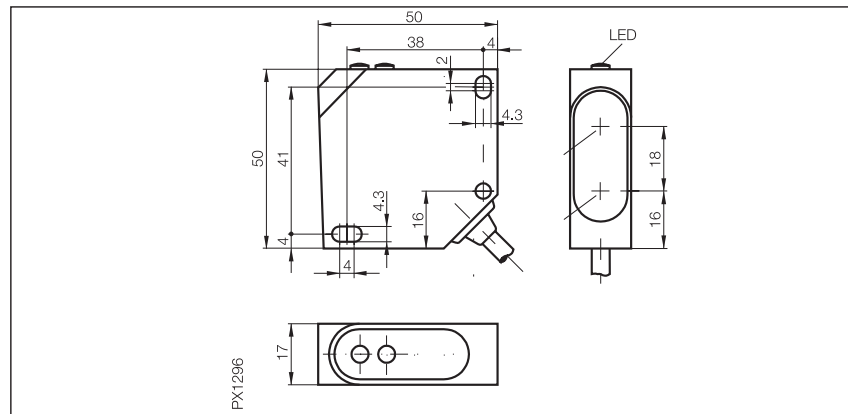
Features

- Non contact distance measure movement of virtually any object
- Fast reaction times for high-speed applications
- High accuracy 20µm resolution for measuring precise positioning
- Produces linear 0-10 V analog output isolated from the power supply
- Differential output driver produces rock-solid, noise-free output voltage
- Visible red laser emission (670nm) which allows for easy setup
- Highly visible status LEDs for stability and contamination (target out of range) function
- Compact, versatile IP67 housing with 6 meter shielded cable
- Extremely low temperature drift (18µm/°C)



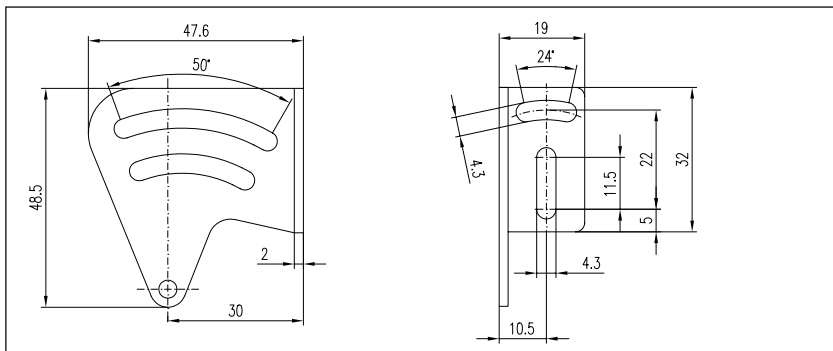


Series	BOD 26K	BOD 26K
Working range	45...85mm	45...85mm
	Standard resolution	High resolution



Ordering code	BOD-26K-LA01-C-06	BOD-26K-LA02-C-06
Sensing Distance	45-85 mm	45-85 mm
Operating voltage	18 – 28 Vdc	18 – 28 Vdc
Operating current	≤35mA	≤35mA
Output type	0 to 10 Volt, differential output	0 to 10 Volt, differential output
Output current	3mA	3mA
Update Time	2ms	20ms
Linearity	<1%	<1%
Max resolution	80µm (0.00315in)	20µm (0.0008in)
Temperature Drift	18µm/k	18µm/k
Gray value shift(90%-18%)	3%	3%
Emission	670nm Red laser light	670nm Red laser light
Laser protection class	Class2	Class2
Beam Diameter	0.8mm@65mm	0.8mm@65mm
Electrical Protection	Short circuit and Reverse polarity	Short circuit and Reverse polarity
Housing material	ABS impact resistant	ABS impact resistant
Function indication	power/stability	power/stability
Sensing surface	PMMA	PMMA
Environmental rating	IP 67	IP 67
Operating temperature	0...+45°C	0...+45°C
Storage temperature	-20 to +60°C	-20 to +60°C
Weight	40g (without cable)	40g (without cable)
Connector	6 meter cable	6 meter cable

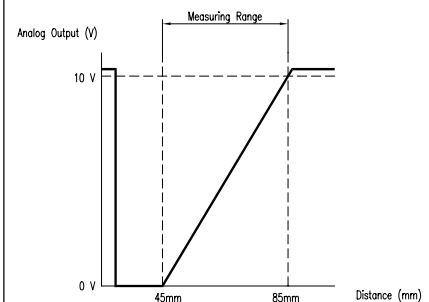
Accessories



BOS-26-HW-1

Adjustable Mounting Bracket

Output Signal



Wiring Connections

